Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of the	)	PR Docket No. 92-257
Commission's Rules	)	
Concerning Maritime	)	
Communications	)	

To: The Commission

REPLY COMMENTS OF BR COMMUNICATIONS

BR Communications ("BR") hereby submits these reply comments in response to comments filed on the Further Notice of Proposed Rulemaking in the above-captioned proceeding, released May 25, 1995 (the "FNPRM"). In particular, BR responds to the comments addressing the Commission's proposal to permit the use of brief frequency modulated continuous wave ("FMCW") signaling under Parts 80 and 87 of the Commission's rules for the purpose of automatic link establishment ("ALE").

Three commenting parties, in addition to BR, addressed ALE. Each of these parties either generally supported or, at a minimum, did not oppose, permitting this important technology to be deployed.[1]

There is good reason for this support. As discussed in BR's comments and technical appendix, BR has conducted an extensive testing program on the use of FMCW technology to improve HF communications. As BR nears the conclusion of its comprehensive two-year study, it has become clear that FMCW signaling can provide HF communications path availability that is at least equivalent to that provided by satellite-based systems.[2] In essence, FMCW signaling can transform HF communications from a cumbersome, complex, and often unreliable communications resource into a dependable, cost-effective means of

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1 Comments of Globe Wireless at 4; Comments of Mobile Marine Radio, Inc. ("MMR") at 19; Comments of the Radio Technical Commission for Maritime Services ("RTCM") at 8. See also Final Comments of Globe Wireless at 2 (filed October 26, 1995).

2 Preliminary results indicate HF availability of 99.99% in temperate latitudes employing FMCW signaling.

communications for maritime and aviation users. This profound enhancement in the potential capabilities of HF communications provides not only a benefit to HF communications users, but also represents a substantial improvement in efficient spectrum use. For this reason, the Commission promptly should amend its rules to permit the widespread use of this technology.

I. FMCW Technology Will Improve HF Communications, Particularly for Data Users, and Will Not Cause Destructive Interference to HF Communications Users.

As noted above, while all of the comments generally were supportive, two of the commenting parties — Mobile Marine Radio ("MMR") and Globe Wireless — expressed some reservations about immediate deployment of FMCW ALE technologies. In assessing these comments, the Commission must keep in mind several important facts.

First, "Chirpsounder®" signaling systems have been operated around the globe for nearly thirty years. BR is not aware of a single, reported case of harmful interference to HF communications users, including data communications users, from Chirp systems operating in compliance with requirements such as those contained in the Commission's proposed rules.[3] Operation in compliance with the Commission's proposed rules will not cause unacceptable interference to HF communications users and, in particular, to data communications users employing even simple error correction.

Second, the brief, periodic, low energy signal of a sounding transmitter is negligible in comparison to the often significant propagation variations and natural RF noise occurring at HF frequencies. For users who do not employ sounding technology, this signal will pass unnoticed, being immersed in the natural background noise. For users who do use sounding technology, this signal not only will not be detrimental, it will make possible substantially more reliable communications. Third, HF sounding can greatly enhance the reliability of data

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[3] As discussed in BR's Comments, BR is not aware of a single case of objectionable interference to a facsimile or radio-printing service from FMCW-ALE systems operating in accordance with the specifications proposed in the FNPRM, despite the fact that BR currently is operating FMCW transmitters and receivers that are co-located with radio-printing and data services and has operated FMCW transmitters that were co-located with facsimile receivers.

communications. Thus, it will provide important benefits — rather than pose a risk — to data communications users and should be embraced by data communications users and service providers.

Finally, propagation assessment and the resulting efficient and effective use of the spectrum — the primary enhancement made possible by FMCW ALE signaling — can be done reliably only with an adequate set of data. If too many frequencies are excluded from the signaling sweep, the data set will be inadequate to provide a comprehensive, useful view of propagation and efficiencies and availabilities will be lost.

Within this context, the Commission should not allow unsubstantiated concerns about interference to delay, limit, or block the deployment of proven FMCW ALE signaling technologies, such as Chirpsounder, on a commercial basis.

II. ALE Should Not Be Relegated to Secondary Status.

MMR proposes that ALE be offered on a non-interference basis to all communications services, both present and future. While BR agrees with MMR that HF communications services must be protected, to the extent MMR is arguing that ALE be accorded only secondary status *vis a vis* other radio users, BR strongly disagrees. The Commission should not undermine the development of signaling technologies in order to address a highly unlikely interference problem. Secondary status would leave open the possibility that new, incompatible services could be introduced in the future and that, at that time, sounder operations would have to be reconfigured or terminated. This would create unnecessary and unacceptable levels of uncertainty to companies, such as BR, who propose to create global HF sounding systems.

III. There Should Be No Restriction on the Use of Sounding Technology on Data Channels.

The second commenting party, Globe Wireless, argues that sounder signaling should not be allowed on data channels "unless it can be proven that the proposed technology will not cause harmful interference to existing service."[4] BR

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[4] Globe Wireless Comments at 4. See also Globe Wireless Reply Comments at 2 (filed Oct. 26, 1995) (recommending that Chirpsounding be allowed only if an independent

submits that this condition already has been met, at least with regard to BR's Chirpsounder technology.

Nearly 150 Chirpsounder transmitters have operated around the world during the past three decades for military and governmental communications uses. BR, moreover, has conducted nearly two years of developmental testing of the Chirpsounder system in commercial applications, undertaken in conjunction with military or telecommunications authorities in the United States, Canada, Iceland, Spain, the United Kingdom, and Sweden, each without a single complaint of interference when operated in accordance requirements such as those proposed in the FNPRM. This extensive, real-world track record offers the "proof" Globe Wireless requests, and the record in this proceeding offers absolutely no anecdotal or scientific evidence to rebut that proof.[5] There is no reason to delay the introduction of a technology that can enhance HF communications substantially and, thereby, promote efficient spectrum use and new communications services for the aviation and maritime industries.[6]

CONCLUSION

BR previously has discussed at length the difficulties associated with existing HF communications, the ways in which FMCW-based ALE can overcome these difficulties, and the resulting public interest benefits of using FMCW-ALE. Briefly stated, FMCW-based ALE would:

- Improve the quality, reliability, and ease of use of HF services by: (i) increasing the availability (the fraction of time a user can pass acceptable traffic) and reliability of HF links; (ii) substantially increasing the HF bandwidth effectively available to users; (iii) improving the received signal-to-noise ("SNR") ratio such that messages do not have to be repeated; and (iv) enabling circuit re-

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investigation shows it will have no detrimental effect on new and existing uses of the HF spectrum).

[5] Indeed, a Chirpsounder transmitter has been in operation at a Globe Wireless facility for nearly two years, yet even Globe Wireless has not alleged that its communications services actually have suffered interference.

[6] Globe Wireless' Reply Comments also allege, without support, that sounders could complicate the task of those developing new data services. However, as discussed above, a data system employing even simple error correction will not be adversely affected by Chirp transmissions.

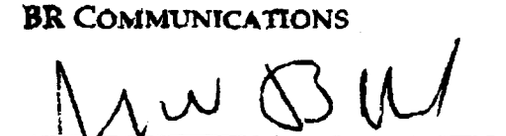
establishment following ionospheric storms or other propagation disturbances.

- Promote the efficient use of the HF spectrum.
- Create a viable alternative to relatively high-cost maritime satellite communications, thereby enabling maritime operators to reduce communications costs.
- Improve the operating safety of ships by providing a usable backup when satellite communication is not possible, such as in severe weather, during failures of the ship's satellite communications equipment, or in regions of the earth not covered well by satellites.
- Improve trans-oceanic aviation communications, thereby improving flight efficiency and flight safety.

For these reasons, and as recognized in the FNPRM and in the comments addressing this issue, authorizing the use of spectrally-efficient, state-of-the-art communications techniques such as FMCW-based ALE would be in the public interest. Moreover, none of the commenting parties provided any valid reason for delaying or restricting the introduction of this technology. The Commission, therefore, promptly should adopt rules permitting the use of brief FMCW signaling in the 2-30 MHz band for the purpose of ALE.

Respectfully submitted,

BR COMMUNICATIONS



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CERTIFICATE OF SERVICE

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